

REMARKS

Claims 1-47 are pending. Claims 1 and 25 are currently amended.

Applicant has amended independent claims 1 and 25 to clarify that the metal-cladded metal matrix composite wire comprises a single aluminum matrix composite wire having an exterior surface and a metal cladding covering and contacting substantially the entire exterior surface. The amendments to claims 1 and 25 were made for purposes of clarification and without surrendering claim scope or adding new matter. Support for the amendment may be found, for example, in Applicant's specification at page 2, lines 18-19; at page 5, line 16 through page 6, line 4; and in Figure 1. Applicant believes that the amendments to the claims place the application in condition for allowance. Applicant respectfully requests reconsideration of the application as amended, and prompt allowance of all pending claims.

Summary of Interview Substance

The undersigned acknowledges with appreciation, the in-person interview granted on August 20, 2007. Participants included Applicants' attorney, Gregory D. Allen, and Examiner Jason L. Savage. Applicant agrees that the substance of that interview is accurately summarized in the Interview Summary supplied by the Examiner. Notwithstanding the foregoing interview, Applicant respectfully requests reconsideration of the application and allowance of all pending claims in view of the following arguments, which include comments in addition to those made at the interview.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-47 stand rejected under 35 USC § 103(a) as allegedly being unpatentable over McCullough et al. (US 6,344,270) in view of Maschinenkunde (English Translation). In the Office Action dated August 10, 2007, the Patent Office alleges that McCullough teaches all elements of Applicant's claimed invention except for an embodiment wherein the metal matrix composite wire core comprises a metal cladding.¹ The Patent Office further alleges that Maschinenkunde provides a teaching of forming a (metal) cladding sheathing coating by extrusion on a composite wire or cable core containing a plurality of fibers, wherein the sheathing coating has good dimensional accuracy, concentricity and surface qualities.² The Patent Office further alleges that it would have been obvious to one of ordinary skill in the art to have modified the composite wire or cable of McCullough by following the teaching of Maschinenkunde of cladding the composite wire with the metal sheathing coating formed by extrusion in order to obtain Applicant's claimed invention. Applicant respectfully disagrees.

Applicant respectfully disagrees with the rejection of independent claims 1 and 25, and claims 2-24 and 26-47 which depend thereon, at least because the Patent Office has failed to meet its burden of establishing a proper *prima facie* case of obviousness in view of the cited references and the claims as currently amended.³

A proper *prima facie* case of obviousness requires that the Office establish three facts:⁴

1. identification of a motivation to combine/modify the cited references;
2. a showing that the proposed combination provides a reasonable expectation of success; and
3. a teaching or suggestion of all of the claim limitations.

Applicant respectfully contends that the Patent Office has neither established a proper motivation to combine the references, nor provided a proper showing that the proposed combination provides a reasonable expectation of success in obtaining Applicant's claimed invention. Applicant further respectfully contends that the Patent Office has at least not properly provided a

¹ Office Action dated August 10, 2007, page 2, last ¶, to page 3, lines 1-2.

² *Id.*, page 3, ¶ 1.

³ See MPEP § 2142

⁴ M.P.E.P. § 2143.

combination of prior art references that teaches or suggests all-elements of Applicants' claimed invention, as required by the "all-elements" rule.⁵

As a threshold matter, Applicant respectfully contends that the Patent Office has not actually established, on the record, that Maschinenkunde discloses or teaches a composite wire core at all. Maschinenkunde discloses a "process of sheathing a cable with continuously extruded, thin-walled aluminum tubing, [that] is suitable especially for heat sensitive cable cores. This sheathing is used, for example, with **optical wave guides for buried optic cables**, as well as for the production of seamless outer coaxial conductors **for coaxial cables**"⁶ (emphasis added). Maschinenkunde also discloses that "[f]or optical wave guides where the sheath must remain loose-fitting, this aluminum tube is then either redrawn slightly, or it remains in the extruded state."⁷ "For high-frequency cables, which have a tightly fitting outer conductor, the sheath is later drawn down continuously **onto the insulation material**."⁸ (emphasis added).

Applicant thus understands Maschinenkunde to disclose applying a metal sheathing to heat sensitive cables, and specifically refers to either an optical waveguide, which Maschinenkunde Fig. 2 shows as comprising a plurality of wires at the core surrounded by a protective covering between the core and the metal sheath, or a high-frequency coaxial cable, which at least has an insulation material between the core and the conductive metal sheathing. Thus, the Patent Office has not met the burden of establishing that Maschinenkunde actually discloses or even suggests a single composite wire core having an exterior surface and a metal cladding covering and contacting substantially the entire exterior surface, as Applicant claims. If the Patent Office disagrees, then the Examiner is respectfully invited to state, on the record with proper citation to page and paragraph, where Maschinenkunde actually teaches or suggests a single composite wire core.

Consequently, Applicant respectfully disagrees with the Patent Office's allegation that it would have been obvious to one of ordinary skill in the art to have modified the composite wire or cable of McCullough by following the teaching of Maschinenkunde of cladding the composite wire

⁵ See *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986).

⁶ Maschinenkunde, page 23, ¶ 1.

⁷ *Id.*, page 23, ¶ 2.

⁸ *Id.*

with the metal sheathing coating formed by extrusion in order to obtain Applicant's claimed invention. At the very least, Applicant respectfully submits that the Patent Office has not provided a proper motivation for one of ordinary skill in the art to combine or modify the references to obtain Applicant's claimed invention, as Applicant believes McCullough et al. discloses **a plurality of metal matrix composite wires bundled to form a core**, while Maschinenkunde relates to heat sensitive cores (with specific reference to **multiple optical wires** or high-frequency coaxial wires) **surrounded by an insulator interposed between the core and the metal sheath**.

Furthermore, Applicant respectfully contends that even if, *arguendo*, the combination of McCullough et al. and Maschinenkunde were made, the Patent Office has not met its burden of showing that the proposed combination provides a reasonable expectation of success in obtaining Applicant's claimed invention. Applicant respectfully contends that the Patent Office has not established how the combination of McCullough et al. and Maschinenkunde could have resulted in Applicant's claimed invention without some additional teaching or suggestion as to how to modify Maschinenkunde so as to permit application of the metal sheathing layer contacting to a composite core without use of the insulative and/or protective covering between the core and the metal sheath as taught in each of the embodiments disclosed in Maschinenkunde.

Finally, Applicant respectfully contends that even if, *arguendo*, the combination of McCullough et al. and Maschinenkunde were made, the Patent Office has not met its burden of showing that the proposed combination includes "all-elements" of Applicant's claimed invention. Applicant respectfully contends that the Patent Office has not established that McCullough et al. and/or Maschinenkunde disclose, teach or even suggest a metal matrix composite wire comprising a **single** aluminum matrix composite wire having an exterior surface and a metal cladding covering and **contacting substantially the entire exterior surface**.

Applicant respectfully submits that it has already proven hereinabove its contention that the Patent Office has not met its burden of establishing that Maschinenkunde actually discloses or even suggests a single composite wire core, as Applicant claims. With respect to McCullough et al., Applicant respectfully contends that the Patent Office has not met its burden of establishing

that McCullough et al. teaches anything but a core comprising a tow made up of a plurality of individual composite wires, as illustrated by Figs. 2-5 and the McCullough et al. specification.⁹

In particular, Applicant notes that even if, *arguendo*, the McCullough et al. core (132 in Fig. 1) comprising a tow made up of a plurality of individual metal matrix composite wires (134 in Fig. 2) were viewed as a single wire core, the surrounding jacket (136 in Fig. 2) of thirty individual aluminum or aluminum alloy wires (138 in Fig. 2), even if *arguendo*, viewed as a metal cladding, does not contact substantially the entire exterior surface of the core.¹⁰

Further, in regard to FIG. 4 of McCullough et al., even assuming *arguendo* that maintaining means 83 is viewed as a metal cladding, it does not contact substantially the entire exterior surface of core 81A¹¹.

Applicant respectfully submits that the Patent Office has not met its burden of showing that the proposed combination of McCullough et al. and Maschinenkunde includes “all-elements” of Applicant’s claimed invention. Thus, Applicant respectfully submits that the Patent Office has not met its burden of establishing a proper *prima facie* case of obviousness over the cited combinations of references. Withdrawal of the rejection of independent claims 1 and 25 is required.

In addition to the foregoing, Applicant submits that a dependent claim should be allowed when its parent claim is allowed.¹² Claims 2-24 and 26-47 each depend from independent claims 1 and 25, respectively. Accordingly, when independent claims 1 and 25 are allowed, all claims depending therefrom should also be allowed. Thus, the rejection of claims 1-47 under 35 USC § 103(a) as allegedly being unpatentable over McCullough et al. in view of Maschinenkunde has been overcome, and should be withdrawn.

⁹ McCullough et al., US Pat. No. 6,344,270 B1, Figs. 2-5 and col. 3, lines 31-44.

¹⁰ *Id.*, col. 9, lines 9-14 and Fig. 2.

¹¹ *Id.*, col. 9, lines 21-32 and Fig. 4.

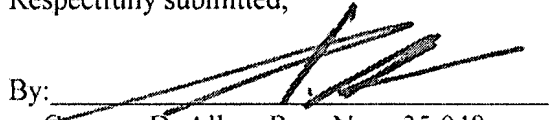
¹² *In re McCarn*, 101 USPQ 411 (CCPA 1954).

CONCLUSION

For at least the foregoing reasons, the Office Action has not met its burden of showing that the prior art makes obvious Applicant's claimed invention. The rejection of claims 1-47 under 35 U.S.C. § 103(a), as allegedly being obvious over the combination of McCullough et al. and Maschinenkunde has been overcome and should be withdrawn. Reconsideration of all pending claims as currently amended is also respectfully requested. In view of the above, it is submitted that the application is in condition for allowance. Allowance of the claims at an early date is solicited. If the Office disagrees, then Applicant requests an interview to more fully understand the Examiners position and advance this case to issuance.

Respectfully submitted,

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Date

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